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Galgeveld 18, B-2200 Herentals (BE). SANTEN, Sven
[SE/SE]; Hammarvägen 21, S-813 33 Hofors (SE).

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(71) Applicant (for all designated States except US): UMI-
CORE [BE/BE]; Rue du Marais 31, B-1000 Brussels (BE).

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(72) Inventors; and

(75) Inventors/Applicants (for US only): VAN CAMP,
Maurits [BE/BE]; Pansgatelaan 40, B-2640 Mortsel
(BE). AERTS, Jonathan [BE/BE]; Duifhuisstraat 32,
B-2300 Turnhout (BE). JANSSENS, Benedict [BE/BE];

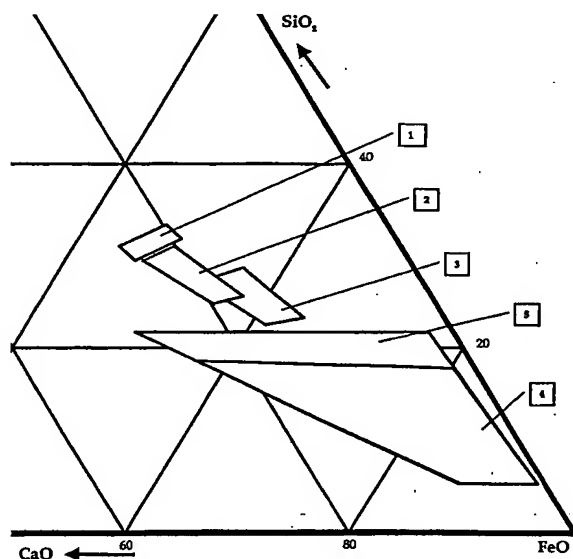
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(54) Title: PROCESS AND APPARATUS FOR RECOVERY OF NON-FERROUS METALS FROM ZINC RESIDUES

$$\frac{[\text{Fe}]}{[\text{SiO}_2]} + \frac{[\text{CaO}]}{[\text{SiO}_2]} + \frac{[\text{MgO}]}{3} > 3.5,$$

$$0.1 < \frac{[\text{CaO}]}{[\text{SiO}_2]} < 1.3; \text{ and}$$

$$6 < [\text{SiO}_2] < 22, \quad (I)$$



(57) Abstract: The invention relates to a process
for the separation and recovery of non-ferrous
metals from zinc-bearing residues, in particular
from residues produced by the zinc manufacturing
industry. The process comprises the steps of: -
subjecting the residue to a flash or agitated bath
fuming step, thereby producing an Fe bearing slag
and Zn- and Pb-bearing fumes; and - extracting the
Zn- and Pb-bearing fumes and valorising Zn and
Pb; characterised in that CaO, SiO₂ and MgO are
added as a flux before or during the fuming step so
as to obtain a final slag composition with: formula
(I) all concentrations being expressed in wt%.
The invention also relates to a single-chamber
reactor for Zn-fuming equipped with one or more
submerged plasma torches as heat and gas sources.



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